

After several years in retirement, Mr. Lighthipe died at his birthplace, Orange, 14 December 1927. His connection with the Torrey Botanical Club, as corresponding member, active member, and again as corresponding member, thus covered a total period of more than forty-two years.

JOHN HENDLEY BARNHART.

## PROCEEDINGS OF THE CLUB

MEETING OF NOVEMBER 8, 1927

This meeting was held at the American Museum of Natural History. In the absence of the President and Vice-Presidents, Dr. T. E. Hazen, Editor, occupied the chair. The program of the evening consisted of an illustrated lecture by Dr. Ralph H. Cheney of New York University, entitled "Coffee Structure, and the Effect of the Beverage." Dr. Cheney said, in part: "for the great mass of humanity, coffee is a most satisfying, harmless and beneficially stimulating beverage. About forty species of coffee (*Coffea*) have been described by botanists as indigenous to Africa, India and adjacent areas. Nineteen of these species produce coffee beans (seeds) of economic value, but only three species—Arabian Coffee, Liberian Coffee, and Robusta Coffee—are of any importance. The bulk of the commercial coffee beans are derived from *Coffea arabica*, a small evergreen tree bearing fragrant white flowers and fleshy, cherry-like fruits possessing a sweet edible pulp and containing two coffee beans with their flat sides together. In Persia and Turkey, the dried and roasted pulp is utilized to prepare a bitter preparation known as Sultana Coffee. In Arabia the fruit is allowed to dry intact and the pulp is then removed and used to prepare a pleasant infusion called *Kisher* or *Kahwe*. In Sumatra, coffee leaves, which contain caffeine as well as the seeds, have been employed in the preparation of a beverage. Liberian coffee beans are larger and of a coarser flavor but are used by middlemen, especially in Europe and England, to strengthen grades which by themselves are flavorless.

"The common or Arabian coffee has been known and used from time immemorial by semi-savage tribes of higher Ethiopia, where it is indigenous and grows, wild and cultivated, at the present

time. Bruce, in his "Travels to Discover the Source of the Nile" published in 1678, informs one that the Gallae were a wandering African nation, who, during their journeys into Abyssinia, traveled over vast deserts, and that the only food that they carried consisted of coffee-berries, roasted and pulverized, mixed with grease, rolled into balls, and carried in leathern bags. Each ball—size of a billiard ball—would sustain an individual for a day, when on a marauding incursion or in active warfare, better than a loaf of bread or a meal of meat, because it cheered his spirits in addition to feeding him."

The microscopic structure of the cotyledon was shown by lantern slides of sections with high and low power magnification, and the use of such structures in determining adulteration was discussed. The botanical identity of the various species of coffee was shown by lantern slides—some in color.

"The United States as a nation habitually consumes more coffee than any other people. The United States takes almost one-half of the total shipments entering international trade. The average annual importation of nine and one half million bags during the five years subsequent to the war was an increase in quantity of over 40 percent in excess of the pre-war annual average. During 1921-1925 the Department of Commerce, Washington, ranked coffee as third in value of all the raw products imported into the United States. Coffee was exceeded only by raw silk and sugar.

"Of the various caffeine drinks, such as coffee, tea, chocolate and cocoa, maté, cassena, coca-cola, guarana or Brazilian chocolate, etc., coffee, with its delightful aroma, if for no other quality, is the most satisfying of all because of the inseparable associations between the human sense of taste and smell. De-fibrinated and decaffeinated coffees and coffee substitutes lack partially or entirely the aromatic qualities of coffee and therefore they can not produce as pleasing an infusion as 100 percent coffee. There is also a psychological value that coffee brings about by means of its ability to cheer the spirits beyond the reaction of any other common beverage. The alkaloid caffeine is a mild brain and heart stimulant and gives relief from fatigue and hunger. Such co-ordination of mind and body must increase human efficiency. There are instances in which coffee has caused ill-effects in regard to digestive, circulatory,

and nervous reactions. I dare to prophesy, however, that a statistical investigation would reveal the fact that the percent of persons affected injuriously by coffee is not as great as the percent of individuals who suffer from a digestive rash or other metabolic disorders in response to eating strawberries, clams, spinach, and various other foods which a limited number of people manifest an inability to digest or assimilate.

"Coffee has been roasted well, so it is not necessary to *cook* it again in the making, as the desirable constituents are removed by a very brief treatment. Boiling, even for a short period, is deleterious to both the flavor and aroma, and a woody, bitter beverage results. Five minutes' subjection of coffee to water at just *below* ( $95^{\circ}$  C.), the boiling point, removes as much caffeine (80 percent) as can be extracted without very prolonged treatment. After a 5 minute water-treatment, of freshly roasted, ground coffee at  $95^{\circ}$  C., or at  $190^{\circ}$  to  $195^{\circ}$  Fahrenheit, the infusion should be immediately filtered and served. Coffee prepared in this way results in a most palatable stimulating beverage which is not harmful to 95 percent of people."

The contrasting effects of the coffee beverage and nicotine, opium (morphine) and alcohol were discussed.

"Experimental research strongly indicates that for 95 percent to 97 percent of individuals, the moderate quantity of caffeine consumed in one and one-half grain doses, which is the average amount present in the 150 cc. (a little over one gill) of infusion served as a cup of coffee, is a mild stimulant of the heart, brain, and muscles. This action results in a greater power to accomplish mental and physical work without any detrimental after-effect as manifested by a depression in spirits or body functions. The body rapidly increases its activity, but gradually returns to normal without suffering any subnormal or recuperation period which is characteristic of stimulants in general. Caffeine does not apparently draw on the body reserve. It is hardly fair to condemn a beverage, as certain people persist in doing, because it may be slightly injurious to 3 percent of the population when it is a most delightful and invigorating stimulant to the vast majority."

Respectfully submitted

ARTHUR H. GRAVES,  
*Secretary.*

## MEETING OF DECEMBER 13, 1927

This meeting was held at the American Museum of Natural History. In the absence of the President and Vice-Presidents, the Secretary presided. The program of the evening consisted of an address by Mr. Norman Taylor entitled "Vegetation of the Allegany State Park." The Allegany State Park is situated in the extreme southwestern corner of New York State, 80 miles south of Buffalo, and with its southern boundary coinciding with the northern state line of Pennsylvania. The Park covers an area of about 100 square miles. The general elevation is about 1300 feet, the highest point being 2475 ft. It contains about 2500 acres of virgin timber located in the central part. There are no lakes or bogs. The bulk of the tract is covered by the Beech-Birch-Maple association, although the Oak-Hickory-Sassafras type occasionally occurs near the Allegheny River. The unusually low minimum temperature of the region is as yet an unexplained phenomenon. During the summer of 1927 the absolute minimum was 34°, the maximum 78°.

Other interesting points brought out by Mr. Taylor will be included in his account of the vegetation of the Park which will shortly be published in the form of a handbook, issued by the New York State Museum.

ARTHUR H. GRAVES,  
*Secretary.*

## MEETING OF JANUARY 10, 1928

This meeting was called to order at 8.25 at the American Museum of Natural History. Vice-President Torrey presided. Eighteen members were present. Dr. R. A. Harper spoke of the sudden, sad death on January 9 of Dr. Herbert M. Richards, President of the Club since the beginning of the year 1917. The following resolutions were then offered by Dr. N. L. Britton:

*Resolved:*

That with profound grief caused by the lamented death of Professor Herbert M. Richards, President of the Torrey Botanical Club, the present Annual Meeting of the Club be adjourned until the meeting on the last Wednesday of January, 1928, to be held at the New York Botanical Garden, and

*Resolved:*

That a committee of three members be appointed to frame resolutions appreciative of the services of Professor Richards to the Club and to botanical science, for presentation at such adjourned meeting, and

*Resolved:*

That this Committee act also as a committee to nominate officers of the Club for the year 1928.

By vote of the Club these resolutions were approved, and the following committee appointed to carry out their last two provisions:

Professor R. A. Harper, Chairman

Professor E. S. Burgess

Dr. N. L. Britton

In accordance with the first resolution, as a mark of respect to the memory of the late President, the meeting was then adjourned.

Respectfully submitted

ARTHUR H. GRAVES,

*Secretary*

## NEWS NOTES

Professor Herbert Maule Richards, president of the Torrey Botanical Club since 1917, died at his home on Riverside Drive, New York, on January ninth.

Dr. Richards had been professor of botany at Barnard College for twenty years.

Secretary of Agriculture Jardine announced the latter part of December a revision of the corn borer quarantine. This adds to the area already under quarantine seven hundred and eighty-one townships in Massachusetts, New York, New Jersey, Pennsylvania, Ohio, Indiana, and Michigan. In New York the County of Suffolk and parts of Delaware and Ulster Counties were added, making practically the entire state under regulation. The shipment of cornstalks and ears to uninfested territory is prohibited and inspection and certification of clean shelled corn required.